(19) World Intellectual Property Organization International Bureau



1811) 1872) A REI BARRAN B

(43) International Publication Date 28 October 2004 (28.10.2004)

PCT

(10) International Publication Number WO 2004/092528 A3

(51) International Patent Classification7:

E21B 23/02

(21) International Application Number:

PCT/US2004/010762

(22) International Filing Date: 6 April 2004 (06.04.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/461,038

7 April 2003 (07.04.2003) US

- (71) Applicant (for all designated States except US): ENVEN-TURE GLOBAL TECHNOLOGY [US/US]; 16200 A Park Row, Houston, TX 77084 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): BRISCO, David, Paul [US/US]; 405 Westridge Drive, Duncan, OK 73533 (US). WATSON, Brock, Wayne [US/US]; 2535 Marsh Lane #1004, Carrollton, TX 75006 (US). TREECE, Harold [US/US]; 213 Ridgecrest Drive, Duncan, OK 73533 (US).
- (74) Agent: MATTINGLY, Todd; Haynes and Boone, LLP, Suite 3100, 901 Main Street, Dallas, TX 75202 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, I.C, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NI., PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

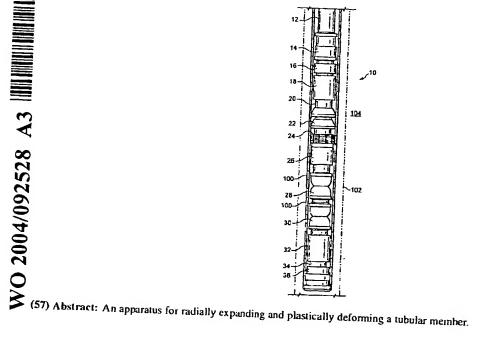
of inventorship (Rule 4.17(iv)) for US only

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of umendments
- (88) Date of publication of the international search report: 10 November 2005

[Continued on next page]

(54) Title: APPARATUS FOR RADIALLY EXPANDING AND PLASTICALLY DEFORMING A TUBULAR MEMBER



BEST AVAILABLE COPY

	INTERNATIONAL SEARCH F	EPORT	[International a	pplication No.
				PCT/US04/10	
A. CL IPC(7)	ASSIFICATION OF SUBJECT MATTER			PC1/0504/10	762
US CL	: E21B 23/02 : 166/207,55.7				
According	to International Patent Classification (IPC) or to	10th pational at			
Minimum (U.S. :	documentation searched (classification system foll 166/207,55.7,380,384	owed by classif	ication symbols)	
Documenta	tion searched other than minimum t				
None	tion searched other than minimum documentation	to the extent th	at such documen	nts are included	in the fields searched
Electronic d Please See (lata base consulted during the international search Continuation Sheet	(name of data b	pase and, where	practicable, sear	rch terms used)
C. DOC	CUMENTS CONSIDERED TO BE RELEVANT				
Category *	Citation of document with indication and				
A	US 2005/0056433 A1 (RING et al) 17 March 20	005 (17/03/05)	of the relevant	passages	Relevant to claim N
		- 05 (17705705),	see enure docu	ment.	1-75
1					ł
į					ł
	!				1
1					İ
- 1					
ĺ			•		
1					
1					
į.					
1					
Further d	Ocuments are listed in the				
Further d	ocuments are listed in the continuation of Box C.		ee patent family	v annex.	
3 per	cial categories of cited documents:	"T"	see patent family	hed a fee at a fee	ational filing data or ani-
document de particular reli	cial categories of cited documents: ·fining the general state of the art which is not considered to be of evance	" I"	later document public fate and not in confli- principle or theory un	hed after the interna ct with the application derlying the invention	
document de particular reli earlier applic	cial categories of cited documents: fining the general state of the art which is not considered to be of evance ation or patent published on or after the international filing date	"T"	later document public date and not in confli- principle or theory un document of particular considered novel or co-	bed after the interna ct with the application derlying the invention relevance; the claim	on but cated to understand the
document de particular reli earlier applica document wh	cial categories of cited documents: fining the general state of the art which is not considered to be of evance ation or patent published on or after the international fitting date	"T"	later document public fate and not in confli- principle or theory un document of particular	bed after the interna ct with the application derlying the invention relevance; the claim	on but caled to understand the
document de particular reli earlier applic document wh	cial categories of cited documents: ·fining the general state of the art which is not considered to be of evance	"X" c	ater document public date and not in confli- principle or theory un locument of particula onsidered novel or ca when the document is	thed after the interna- te with the application derlying the invention or relevance; the claim taken alone	na but cated to understand the on med invention cannot be to involve an inventive step
document de particular rel earlier applic document wh establish the p specified)	cial categories of cited documents: fining the general state of the art which is not considered to be of evance ation or patent published on or after the international fitting date ich may throw doubts on priority claim(s) or which is cited to publication date of another citation or other special reason (as	"Y" d	ater document public date and not in confli- principle or theory un document of particular considered novel or a when the document is occument of particular considered to involve	thed after the interna- ct with the application derlying the invention or relevance; the claim named be considered taken abone	med invention cannot be to involve an inventive step
document de particular reli earlier applici document wh establish the p specified) document refe	cial categories of cited documents: fining the general state of the art which is not considered to be of evance ation or patent published on or after the international filing date ich may throw doubts on priority claim(s) or which is cited to publication date of another citation or other special reason (as	"X" c	ater document publicate and not in confliction of incompleted theory understanding the confliction of the co	thed after the interna- ti with the application derlying the invention or relevance; the claim named be considered taken atome relevance; the claim an inventioner step who	med invention cannot be to involve an inventive step
document de particular rele earlier applic document wh establish the p specified) document refe document pub	cial categories of cited documents: fining the general state of the art which is not considered to be of evance ation or patent published on or after the international filing date tich may throw doubts on priority claim(s) or which is cited to publication date of another citation or other special reason (as arring to an oral disclosure, use, exhibition or other means	"Y" d	ater document public date and not in confli- principle or theory un document of particula onsidered novel or a when the document of particular possidered to involve ith one or more other vious to a person sk	bed after the interna- ct with the application derlying the invention of relevance; the claim amout be considered taken alone relevance; the claim un inventive step which such documents, so alled in the art	med invention cannot be to involve an inventive step and invention cannot be to involve an inventive step and invention cannot be ten the docurrent is combined to combination being
document de particular rele earlier applica document wh establish the papecified) document refe document pub priority date el	cial categories of cited documents: fining the general state of the art which is not considered to be of evance ation or patent published on or after the international fiting date ich may throw doubts on priority claim(s) or which is cited to publication date of another citation or other special reason (as arring to an oral disclosure, use, exhibition or other means lished prior to the international filing date but later than the	"Y" d	ater document publicate and not in confliction of incompleted theory understanding the confliction of the co	bed after the interna- ct with the application derlying the invention of relevance; the claim amout be considered taken alone relevance; the claim un inventive step which such documents, so alled in the art	med invention cannot be to involve an inventive step and invention cannot be to involve an inventive step and invention cannot be ten the docurrent is combined to combination being
document de particular reli earlier applicadocument who establish the pspecified) document refe document pub priority date el e of the actual	cial categories of cited documents: Ifining the general state of the art which is not considered to be of evance. ation or patent published on or after the international filing date in the may throw cloubts on priority claim(s) or which is cited to publication date of another citation or other special reason (as citing to an oral disclosure, use, exhibition or other means lished prior to the international filing date but later than the laimed.	"X" d	ater document public date and not in confli- principle or theory un- document of particular considered novel or c- when the document is occument of particular occument of particular in the one or more other povious to a person sk	thed after the interna- ct with the application derlying the invention or relevance; the claim named be considered taken alone relevance; the claim an inventive step who such documents, so alled in the art	med invention cannot be to involve an inventive step and invention cannot be and invention cannot be then the document is combined the combination being
document de particular reli earlier applicadocument whe establish the paper field document refe document pub priority date el e of the actual eugust 2005 (cial categories of cited documents: Ifining the general state of the art which is not considered to be of evance ation or patent published on or after the international filing date iich may throw doubts on priority claim(s) or which is cited to publication date of another citation or other special reason (as tring to an oral disclosure, use, exhibition or other means lished prior to the international filing date but later than the laimed 1 completion of the international search	"X" d	ater document public date and not in confli- principle or theory un- document of particular considered novel or c- when the document is occument of particular occument of particular in the one or more other povious to a person sk	thed after the interna- ct with the application derlying the invention or relevance; the claim named be considered taken alone relevance; the claim an inventive step who such documents, so alled in the art	med invention cannot be to involve an inventive step and invention cannot be and invention cannot be then the document is combined the combination being
document de particular reli earlier application document whe establish the paper field document publication priority date election of the actual august 2005 (e.g., and mailing and mailing decument publication).	cial categories of cited documents: Ifining the general state of the art which is not considered to be of evance. ation or patent published on or after the international filing date in the may throw cloubts on priority claim(s) or which is cited to publication date of another citation or other special reason (as publication date of another citation or other special reason (as publication or other international filing date but later than the laimed. I completion of the international search (02.08.2005)	"X" do	ater document publicate and not in conflicate and not in conflicate and not in conflicate and not incoment of particular considered novel or conflicate and of particular considered to involve ith one or more other ovious to a person skill and the provious to a	thed after the interna- ct with the application derlying the invention or relevance; the claim named be considered taken alone relevance; the claim an inventive step who such documents, so alled in the art	med invention cannot be to involve an inventive step and invention cannot be and invention cannot be then the document is combined the combination being
document de particular reli earlier applici document wh establish the particular refe document refe document refe document particular date el e of the actual	cial categories of cited documents: Ifining the general state of the art which is not considered to be of evance ation or patent published on or after the international filing date ich may throw doubts on priority claim(s) or which is cited to publication date of another citation or other special reason (as tring to an oral disclosure, use, exhibition or other means lished prior to the international filing date but later than the latined completion of the international search 02.08.2005 g address of the ISA/US P.PCT. Atty: ISA/US	"X" d	ater document publicate and not in conflicate and not in conflicate and not in conflicate and not incoment of particular considered novel or conflicate and of particular considered to involve ith one or more other ovious to a person skill and the provious to a	thed after the interna- ct with the application derlying the invention or relevance; the claim named be considered taken alone relevance; the claim an inventive step who such documents, so alled in the art	med invention cannot be to involve an inventive step and invention cannot be and invention cannot be then the document is combined the combination being
document de particular reli earlier applici document wh establish the particular rele document pub priority dane el e of the actual august 2005 (e and mailing Mail Sto Commiss	cial categories of cited documents: fining the general state of the art which is not considered to be of evance ation or patent published on or after the international filing date ich may throw doubts on priority claim(s) or which is cited to publication date of another citation or other special reason (as tring to an oral disclosure, use, exhibition or other means lished prior to the international filing date but later than the laimed completion of the international search completion of the international search completion of the international search completion of the ISA/US p PCT, Attn: ISA/US p PCT, Attn: ISA/US	"X" do	ater document publicate and not in confliction or theory undocument of particular on sidered novel or circles of the document of particular on sidered to involve in the one or more other ovious to a person skill of the property of the order of the particular of th	thed after the interna- ct with the application derlying the invention or relevance; the claim named be considered taken alone relevance; the claim an inventive step who such documents, so alled in the art	med invention cannot be to involve an inventive step and invention cannot be and invention cannot be then the document is combined the combination being
document de particular rele earlier applicadocument whe establish the particular refe document pubpriority date et e of the actual august 2005 (see and mail ing Mail Sto Commiss P.O. Box	cial categories of cited documents: fining the general state of the art which is not considered to be of evance. ation or patent published on or after the international fitting date in the may throw doubts on priority claim(s) or which is cited to publication date of another citation or other special reason (as publication date of another citation or other special reason (as paring to an oral disclosure, use, exhibition or other means lished prior to the international filing date but later than the laimed completion of the international search completion of the ISA/US g address of the ISA/US international search completion for Patents	"X" do control of the	ater document publicate and not in conflicate and not in conflicate and not in conflicate and not incompleted or theory under the comment of particular considered novel or comment of particular considered to involve it in one or more other povious to a person skill conflicate of the conflicate of th	bed after the internact with the application of with the application of the invention of the claim of the invention of the in	med invention cannot be to involve an inventive step and invention cannot be and invention cannot be then the document is combined the combination being
document de particular rele earlier applicadocument whe establish the particular refe document pubpriority date et e of the actual august 2005 (see and mail ing Mail Sto Commiss P.O. Box	cial categories of cited documents: Ifining the general state of the art which is not considered to be of evance. ation or patent published on or after the international filing date in the may throw cloubts on priority claim(s) or which is cited to publication date of another citation or other special reason (as publication date of another citation or other special reason (as citizen and disclosure, use, exhibition or other means alished prior to the international filing date but later than the laimed. I completion of the international search (02.08.2005) By address of the ISA/US (02.08.2005) By address of the ISA/US (03.08.2005) By CT, Attn: ISA/US (03.08.2005)	"X" do control of the	ater document publicate and not in confliction or theory undocument of particular on sidered novel or circles of the document of particular on sidered to involve in the one or more other ovious to a person skill of the property of the order of the particular of th	bed after the internact with the application of with the application of the invention of the claim of the invention of the in	med invention cannot be to involve an inventive step and invention cannot be and invention cannot be then the document is combined the combination being

INTERNATIONAL SEARCH REPORT	International application No.		
SEARCH REPURI	PCT/US04/10762		
•			
Ontinuation of D. Current			
Continuation of B. FIELDS SEARCHED Item 3:			
search terms: Radially adj expanding and cutting			
and cutting			
		- 1	
		- 1	
		- 1	
		ı	
		- 1	
		-	
		- 1	
		- 1	
		-	